Eureka Math *A Story of Units*
Fifth Grade – Module 3
2015-2016

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Test based on Eureka Math Version 3.

Module Assessment Overview

Purpose of Assessments

Mid-Module Assessment: These tasks address approximately the **first half** of the module's learning objectives and provide important information for instruction and for grading.

End-of-Module Assessment: These tasks are based on all standards addressed in order to gauge students' full range of understanding of the **module as a whole**. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Administration of Assessments

- Mid- and End-of-Module Assessments are designed to be completed in approximately one class period. However, The tests can be given over multiple days as needed.
- Assessments are designed to be completed independently by students, without assistance.
- These tasks should not be preceded by review of similar problems.

Grading Guidance

The grading scale on Elementary Report Cards has been changed for 2015-2016 and beyond. Please note that ***4 now indicates advanced understanding of grade level standards expected at this time of year.***

4 – Advanced: Student demonstrates advanced understanding of grade level standards expected at this time of year.
3 – Proficient: Student demonstrates proficiency with grade level standards expected at this time of year.
2 – Basic: Student demonstrates basic understanding of grade level standards expected at this time of year. Student needs additional support and practice.
1 – Below Basic: Student demonstrates minimal understanding of grade level standards expected at this time of year. Student needs significant support and practice.

Rubrics have been updated to reflect this change. Rubrics have been further modified from Eureka Math originals for clarity, accuracy, and alignment to Bethel's grade scale.

General Grading Guidance:

- On the report card, student learning is reported by CCSS domain. The Fifth Grade CCSS domains are: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations – Fractions, Measurement and Data, and Geometry.
- Grades in each domain should be based on multiple sources of evidence, including the Mid- and End-of-Module Assessments. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

Module 3 Grading Guidance:

- Standards 5.NF.1 and 5.NF.2 are only assessed in Fifth Grade Module 3. The remaining standards in this module will be assessed again in later modules. (See checklist on page 3.)

Grade 5 Common Core State Standards Checklist by Module

This grade-level chart provides an at-a-glance view of when each standard is addressed. The shaded boxes indicted standards assessed in Module 3. Some standards may be assessed again in later modules. *Note that standards included in major clusters are followed by an asterisk (*).* Please refer to the Curriculum Overview of *A Story of Units* for a curriculum map and detailed grade-level descriptions including a summary of the year, a rationale of the module sequence, and a standards alignment chart.

CCSS		GRADE 5 MODULES					
		1	2	3	4	5	6
5.OA	1		X		X		
	2		X		X		X
	3						X
5.NBT	1*	X	X				
	2*	X	X				
	3a*	X					
	3b*	X					
	4*	X					
	5*		X				
	6*		X				
	7*	X	X		X		
5.NF	1*			X			
	2*			X			
	3*				X		
	4a*				X		
	4b*					X	
	5a*				X		
	5b*				X		
	6*				X		
	7a*				X		
	7b*				X		
	7c*				X		
5.MD	1	X	X		X		
	2				X		
	3a*					X	
	3b*					X	
	4*					X	
	5a*					X	
	5b*					X	
	5c*					X	
5.G	1						X
	2						X
	3					X	
	4					X	

Fifth Grade Module 3: Mid-Module Assessment Task Score Sheet

A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency.* In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, "Evidence of solid reasoning with a correct answer". These steps are meant to help teachers and students identify and celebrate what the student CAN do now, and what they need to work on next.

Score Key: A Progression of Learning			
Little or no evidence of reasoning with an incorrect answer. (1 Point)	Evidence of some reasoning with an incorrect answer. (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	Evidence of solid reasoning with a correct answer. (4 Points)

	Module 3 Mid-Module Assessment		
	Domain	Standards	
Question	Number and Operations - Fractions	5.NF.1	5.NF.2
1a	1 2 3 4	X	
1b	1 2 3 4	X	X
1c	1 2 3 4	X	X
1d	1 2 3 4	X	X

Domain Score	Number and Operations - Fractions	
Total Points		
Level	4	14-16 points
	3	10-13 points
	2	6-9 points
	1	4-5 points

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

Fifth Grade Module 3: Mid-Module Assessment Task Score Sheet (continued)

Mid-Module Assessment Task (Topics A–B) Clusters and Standards Addressed
Understand place value.
5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*
5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2*.

Fifth Grade Module 3: Mid-Module Assessment Task Rubric

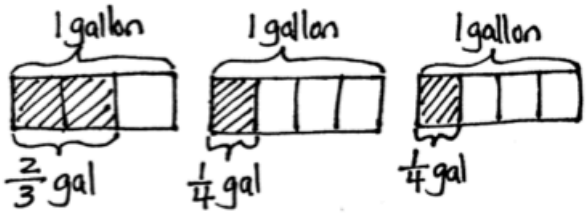
A Progression of Learning				
Assessment Task Item and Standards Assessed	**STEP 1** **Little or no evidence of reasoning with an incorrect answer.** **(1 Point)**	**STEP 2** **Evidence of some reasoning with an incorrect answer.** **(2 Points)**	**STEP 3** **Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.** **(3 Points)**	**STEP 4** **Evidence of solid reasoning with a correct answer.** **(4 Points)**
1(a) **5.NF.1**	The student shows little evidence of clear reasoning and understanding, resulting with an incorrect answer.	The student: **(1)** Calculates 14/12 gal, 1 2/12 gal, 1 1/6 gal, 7/6 gal, or equivalent. **OR** **(2)** Illustration is present, but lacking clarity.	The student: **(1)** Calculates 14/12 gal, 1 2/12 gal, 1 1/6 gal, 7/6 gal, or equivalent. **(2)** Illustration is present, but lacking clarity.	The student correctly: **(1)** Calculates 14/12 gal, 1 2/12 gal, 1 1/6 gal, 7/6 gal, or equivalent. **(2)** Illustrates the answer clearly in a diagram.
1(b) **5.NF.1** **5.NF.2**	The student correctly answers **0-1** of the four parts.	The student correctly answers **2** of the four parts.	The student correctly answers **3** of the four parts.	The student correctly answers **4** of the four parts. (See below.)
	1. Calculates 5/12 or 10/24 gal. or equivalent. 2. Illustrates the answer clearly in words. 3. Illustrates the answer clearly in numbers. 4. Illustrates the answer clearly with a diagram.			
1(c) **5.NF.1** **5.NF.2**	The student correctly answers **0-1** of the four parts.	The student correctly answers **2** of the four parts.	The student correctly answers **3** of the four parts.	The student correctly answers **4** of the four parts. (See below.)
	1. Calculates 1/3 gal or equivalent fraction, such as 4/12 gal. 2. Models 1/6 + 1/4 and 3/4 – 5/12, or alternatively models 3/4 – 1/6 –3/4 using words, 3. Models 1/6 + 1/4 and 3/4 – 5/12, or alternatively models 3/4 – 1/6 –3/4 using numbers 4. Models 1/6 + 1/4 and 3/4 – 5/12, or alternatively models 3/4 – 1/6 –3/4 using a diagram.			
1(d) **5.NF.1** **5.NF.2**	The student correctly answers **0-1** of the four parts.	The student correctly answers **2** of the four parts.	The student correctly answers **3** of the four parts.	The student correctly answers **4** of the four parts. (See below.)
	1. Calculates 3/8 lb. as the amount of flour used for brownies. 2. Explains the solution using diagrams. 3. Explains the solution using words. 4. Explains the solution using numbers.			

Fifth Grade Module 3: Mid-Module Assessment Task Key

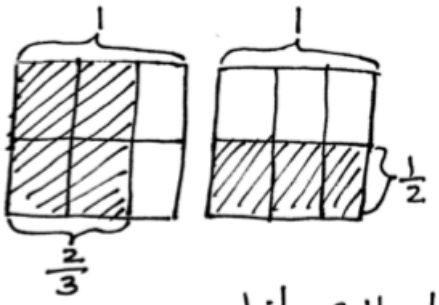
Name Jacqueline Date _____

1. Lila collected the honey from 3 of her beehives. From the first hive she collected $\frac{2}{3}$ gallon of honey. The last two hives yielded $\frac{1}{4}$ gallon each.

   a. How many gallons of honey did Lila collect in all? Draw a diagram to support your answer.



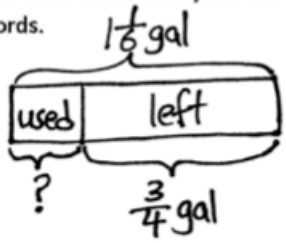
$\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$

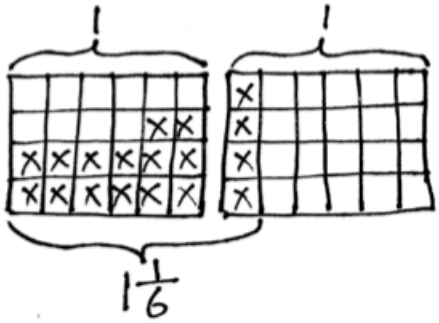


$\frac{2}{3} + \frac{1}{2} = \frac{4}{6} + \frac{3}{6}$
$= \frac{7}{6}$
$= 1\frac{1}{6}$

Lila collected $\frac{7}{6}$ or $1\frac{1}{6}$ gallons in all.

   b. After using some of the honey she collected for baking, Lila found that she only had $\frac{3}{4}$ gallon of honey left. How much honey did she use for baking? Support your answer using a diagram, numbers, and words.



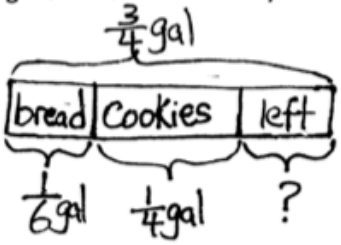


$1\frac{1}{6} - \frac{3}{4}$
$= \frac{7}{6} - \frac{3}{4}$
$= \frac{28}{24} - \frac{18}{24}$
$= \frac{10}{24}$
$= \frac{5}{12}$

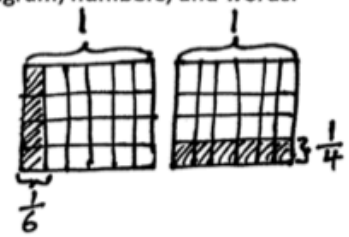
Lila used $\frac{10}{24}$ or $\frac{5}{12}$ gallon for baking.

Fifth Grade Module 3: Mid-Module Assessment Task Key (continued)

c. With the remaining $\frac{3}{4}$ gallon of honey, Lila decided to bake some loaves of bread and several batches of cookies for her school bake sale. The bread needed $\frac{1}{6}$ gallon of honey and the cookies needed $\frac{1}{4}$ gallon. How much honey was left over? Support your answer using a diagram, numbers, and words.

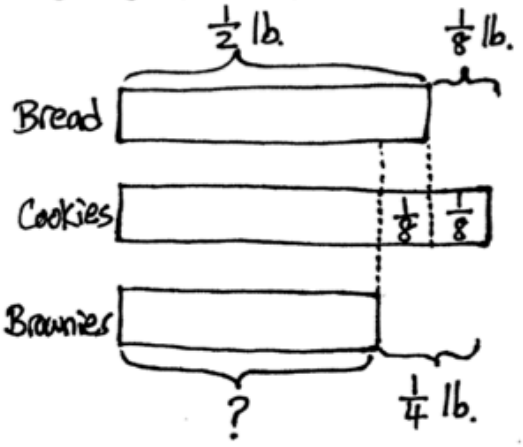


$$\frac{3}{4} - \left(\frac{1}{6} + \frac{1}{4}\right)$$
$$= \frac{3}{4} - \left(\frac{4}{24} + \frac{6}{24}\right)$$
$$= \frac{3}{4} - \frac{10}{24}$$
$$= \frac{18}{24} - \frac{10}{24}$$
$$= \frac{8}{24}$$
$$= \frac{1}{3}$$



Lila had $\frac{1}{3}$ gallon left over.

d. Lila decided to make more baked goods for the bake sale. She used $\frac{1}{8}$ lb less flour to make bread than to make cookies. She used $\frac{1}{4}$ lb more flour to make cookies than to make brownies. If she used $\frac{1}{2}$ lb of flour to make the bread, how much flour did she use to make the brownies? Explain your answer using a diagram, numbers, and words.



$$\frac{1}{2} - \frac{1}{8} = \frac{4}{8} - \frac{1}{8}$$
$$= \frac{3}{8}$$

Lila used $\frac{3}{8}$ pound of flour to make the brownies.

Fifth Grade Module 3: End-of-Module Assessment Task Score Sheet

A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency.* In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, "Evidence of solid reasoning with a correct answer". These steps are meant to help teachers and students identify and celebrate what the student CAN do now, and what they need to work on next.

Score Key: A Progression of Learning			
Little or no evidence of reasoning with an incorrect answer. (1 Point)	Evidence of some reasoning with an incorrect answer. (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	Evidence of solid reasoning with a correct answer. (4 Points)

	Module 3 End-of-Module Assessment		
	Domain	**Standards**	
Question	Number and Operations Fractions	5.NF.1	5.NF.2
1a	1 2 3 4	X	X
1b	1 2 3 4	X	X
2a	1 2 3 4	X	X
2b	1 2 3 4	X	X
2c	1 2 3 4	X	X

Domain Score	Number and Operations Fractions	
Total Points		
Level	4	18-20 points
	3	13-17 points
	2	8-12 points
	1	5-7 points

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

Fifth Grade Module 3: End-of-Module Assessment Task Score Sheet

End-of-Module Assessment Task (Topics C–D) Clusters and Standards Addressed
Understand place value.
5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

Fifth Grade Module 3: End-of-Module Assessment Task Rubric

A Progression of Learning				
Assessment Task Item and Standards Assessed	**STEP 1** **Little or no evidence of reasoning with an incorrect answer.** **(1 Point)**	**STEP 2** **Evidence of some reasoning with an incorrect answer.** **(2 Points)**	**STEP 3** **Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.** **(3 Points)**	**STEP 4** **Evidence of solid reasoning with a correct answer.** **(4 Points)**
1(a) **5.NF.1** **5.NF.2**	The student's work shows little evidence of conceptual or procedural strength.	The student: 1. Calculates that Sheldon has 2 14/24 or 2 7/12 kg of plant food left without showing work. **OR** 2. Writes one or more equations to show how the answer was reached, but makes a calculation error and does not arrive at the correct answer.	The student: 1. Calculates that Sheldon has 2 14/24 or 2 7/12 kg of plant food left. 2. Writes one or more equations that do not clearly show how the answer was reached.	The student correctly: 1. Calculates that Sheldon has 2 14/24 or 2 7/12 kg of plant food left. 2. Writes one or more equations to show how the answer was reached.
1(b) **5.NF.1** **5.NF.2**	The correctly answers **0** of the three parts.	The student correctly answers **1** of the three parts.	The student correctly answers **2** of the three parts.	The student correctly answers **3** of the three parts. (See below.)
	1. Calculates that Sheldon needs 3 7/12 kg of plant food. 2. Notes that 3 7/12 is more than 2 7/12, so Sheldon does not have enough. * 3. Explains answer/shows work using words, pictures, or numbers. * *Allow full credit for answers that are correct based on incorrect work in part 1a.			
2(a) **5.NF.1** **5.NF.2**	The solution is incorrect and shows little evidence of understanding of the need for like units	The student: Calculates that Sheldon picked 3 13/20 kg of strawberries in the afternoon without showing work. **OR** Explains answer/shows work using words, pictures, or numbers, but makes a calculation error.	The student: **(1)** Calculates that Sheldon picked 3 13/20 kg of strawberries in the afternoon. **(2)** Explains answer/shows work using words, pictures, or numbers, but explanation is unclear.	The student correctly: **(1)** Calculates that Sheldon picked 3 13/20 kg of strawberries in the afternoon. **(2)** Explains answer/shows work using words, pictures, or numbers.

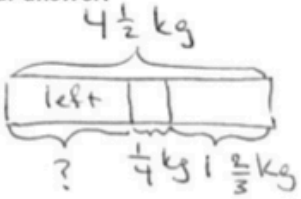
A Progression of Learning				
Assessment Task Item and Standards Assessed	**STEP 1** **Little or no evidence of reasoning with an incorrect answer.** **(1 Point)**	**STEP 2** **Evidence of some reasoning with an incorrect answer.** **(2 Points)**	**STEP 3** **Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.** **(3 Points)**	**STEP 4** **Evidence of solid reasoning with a correct answer.** **(4 Points)**
2(b) **5.NF.1** **5.NF.2**	The solution is incorrect and shows no evidence of being able to work with decimal fractions and fifths simultaneously.	The student correctly: 1. Calculates that 3 8/10 kg or 3 4/5 kg of tomatoes were not rotten. **OR** 2. Shows how answer was reached, but does not use an equation.	The student correctly: 1. Calculates that 3 8/10 kg or 3 4/5 kg of tomatoes were not rotten. 2. Shows how answer was reached, but does not use an equation.	The student correctly: 1. Calculates that 3 8/10 kg or 3 4/5 kg of tomatoes were not rotten 2. Writes an equation to show how answer was reached.
2(c) **5.NF.1** **5.NF.2**	The student correctly answers **0** of the three parts.	The student correctly answers **1** of the three parts.	The student correctly answers **2** of the three parts.	The student correctly answers **3** of the three parts. (See below.)
	1. Responds that garden produced more tomatoes. * 2. Responds that there was 3/20 kg more tomatoes. * 3. Gives equation such as 3 4/5 – 3 13/20 = 3 16/20 – 3 13/20 = 3/20. * * Allow full credit for correct work based on incorrect answers from parts 2a and 2b.			

Fifth Grade Module 3: End-of-Module Assessment Task Key

Name Jacqueline Date

1) On Sunday, Sheldon bought $4\frac{1}{2}$ kg of plant food. He used $1\frac{2}{3}$ kg on his strawberry plants, and used $\frac{1}{4}$ kg for his tomato plants.

a) How many kilograms of plant food did Sheldon have left? Write one or more equations to show how you reached your answer.



$4\frac{1}{4} - 1\frac{2}{3} = 3\frac{1}{4} - \frac{2}{3}$

$= 3\frac{3}{12} - \frac{8}{12}$

$= 2\frac{15}{12} - \frac{8}{12}$

$= 2\frac{7}{12}$

Sheldon had $2\frac{7}{12}$ kg left.

b) Sheldon wants to feed his strawberry plants 2 more times, and his tomato plants one more time. He will use the same amounts of plant food as before. How much plant food will he need? Does he have enough left to do so? Explain your answer using words, pictures or numbers.

$1\frac{2}{3} + 1\frac{2}{3} = 2\frac{2}{3} + \frac{2}{3}$

$= 3\frac{1}{3}$

$3\frac{1}{3} + \frac{1}{4} = 3\frac{4}{12} + \frac{3}{12}$

$= 3\frac{7}{12}$

No, Sheldon does not have enough because.

$2\frac{7}{12} < 3\frac{7}{12}$.

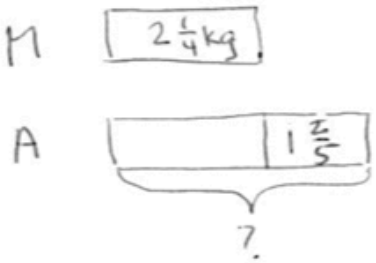
↓ what he has left

↓ what he needs.

Fifth Grade Module 3: End-of-Module Assessment Task Key (continued)

2) Sheldon harvests the strawberries and tomatoes in his garden.

a. He picks $1\frac{2}{5}$ kg less strawberries in the morning than in the afternoon. If Sheldon picks $2\frac{1}{4}$ kg in the morning, how many kilograms of strawberries does he pick in the afternoon? Explain your answer using words, pictures or equations.



$2\frac{1}{4} + 1\frac{2}{5} = 3\frac{1}{4} + \frac{2}{5}$

$= 3\frac{5}{20} + \frac{8}{20}$

$= 3\frac{13}{20}$

Sheldon picked $3\frac{13}{20}$ kg strawberries in the afternoon.

b) Sheldon also picks tomatoes from his garden. He picked $5\frac{3}{10}$ kg but 1.5 kg were rotten and had to be thrown away. How many kilograms of tomatoes were not rotten? Write an equation that shows how you reached your answer.

$5\frac{3}{10} - 1\frac{5}{10} = 4\frac{3}{10} - \frac{5}{10}$

$= 3\frac{13}{10} - \frac{5}{10}$

$= 3\frac{8}{10}$

$3\frac{8}{10}$ kg or $3\frac{4}{5}$ kg were not rotten.

c) After throwing away the rotten tomatoes, did Sheldon get more kilograms of strawberries or tomatoes? How many more kilograms? Explain your answer using an equation.

Tomatoes: $3\frac{8}{10}$ kg

Strawberries: $2\frac{1}{4}$ kg + $2\frac{1}{4}$ kg + $1\frac{2}{5}$ kg

$= 4\frac{1}{2} + 1\frac{2}{5}$

$= 4\frac{5}{10} + 1\frac{4}{10}$

$= 5\frac{9}{10}$ kg

$5\frac{9}{10}$ kg > $3\frac{8}{10}$ kg

$5\frac{9}{10} - 3\frac{8}{10} = 2\frac{1}{10}$ kg

Sheldon got more strawberries, $2\frac{1}{10}$ kg more.